Melissa E. Newman
Senior Vice President
Federal Policy and Regulatory Affairs
1099 New York Avenue NW
Suite 250
Washington, DC 20001
202.429.3120

VIA ECFS

EX PARTE

June 20, 2013

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street SW
Washington, DC 20554

Re: *In the Matter of Improving 9-1-1 Reliability*, PS Docket No. 13-75; *In the Matter of Reliability and Continuity of Communications Networks, Including Broadband Technologies*, PS Docket No. 11-60

Dear Ms. Dortch:

CenturyLink files this letter to respond to questions from FCC Staff that arose during the parties' June 11, 2013 meeting concerning the above-captioned proceedings. Specifically, CenturyLink provides additional information concerning the best practices recently released by the Communications Security, Reliability and Interoperability Council's ("CSRIC") Working Group 8, the generator testing cost estimates provided in CenturyLink's reply comments and other details regarding CenturyLink's 9-1-1 network, and state backup power and 9-1-1 tariffing requirements.

- CSRIC Working Group 8

CenturyLink believes that the Final Report – Part 2 from CSRIC Working Group 8 would be a reasonable starting point for development of a core set of practices which could, if appropriate, be certified to the FCC. Working Group 8 was devoted to 9-1-1 best practices and therefore aligns with issues of import to the Commission in this proceeding. The report has the benefits of being very recent and thorough. In all, the report contains over 700 best practices for the industry, public safety, and consumers. To the extent the Commission uses this report as a starting point for a certification process, CenturyLink strongly recommends that the Commission focus its review on those best practices designated as "Critical," as opposed to those designated "Highly Important" or "Important," and on those applicable to the industry, as opposed to public safety or consumers. This approach should help direct the Commission's efforts on those best practices already prioritized as most important to improve 9-1-1 network reliability and resiliency. This subset of best practices could then be reviewed to determine

which stand to have the greatest tangible public safety benefit, considering the costs of implementation.

CenturyLink notes that the report itself states that the best practices it contains are voluntary in nature and may not apply to all service providers, network operators, or public safety entities due to factors such as cost, feasibility, or other resource limitations.[1] Thus, it is foreseeable that if some of these best practices were to be adopted by the Commission and required to be certified by 9-1-1 providers, that some 9-1-1 providers may be deficient for these or other reasons. While there are a variety of approaches the Commission could take to allow 9-1-1 providers to remedy deficiencies -- including but not limited to requiring less than 100 percent compliance, prioritizing compliance for high-risk areas, or allowing a secondary compliance measure to suffice in limited cases -- it would be premature to identify which approaches would be most beneficial without knowing specifically what the proposed compliance requirements would be. The *NPRM* discusses a wide variety of proposed rules, each posing a unique, and potentially vastly different, compliance burden for CenturyLink and other 9-1-1 providers given each 9-1-1 provider's individual network characteristics.[2] More specificity is necessary to narrow the proposed compliance requirements and analyze the associated compliance burden before CenturyLink can identify meaningful ways to ease that burden.

For example, allowing 9-1-1 providers a period of time to come into compliance would give companies the opportunity to budget for necessary equipment purchases or other increased compliance costs. While at least one year is typically required to get these types of expenses into a corporate budget cycle, more time would be needed for more substantial expenses. Thus, the magnitude of the expense needs to be known to determine a reasonable implementation timeframe. It is also possible that the costs surrounding a proposed compliance requirement are so great that there may not be a business case to support it and another type of deficiency-remedying approach rather than an extended implementation timeframe would be warranted. While at a minimum a waiver process should be available to enable 9-1-1 providers to address carrier-specific issues, a working group setting as discussed in CenturyLink's reply comments would allow full consideration of these issues and for compliance requirements to be examined in tandem with approaches to remedy noncompliance.

---

[1] CSRIC Working Group 8 Final Report - Part 2, at p. 8 of 110 (March 2013): http://transition.fcc.gov/bureaus/pshs/advisory/csric3/CSRICIII_6-6-12_WG8-Final-Report_Pt2.pdf.

[2] *Improving 9-1-1 Reliability, Reliability and Continuity of Communications Networks, Including Broadband Technologies*, PS Docket Nos. 13-75 and 11-60, Notice of Proposed Rulemaking, FCC 13-33 (rel. Mar. 20, 2013) (*NPRM*).

- Generator Testing Estimates and Other 9-1-1 Network Detail

In its reply comments, CenturyLink provides detailed cost estimates to conduct generator testing at sites where they are not currently being performed.[3] These estimates reflect the additional costs to perform such generator testing, and do not include the costs for the estimated 90 percent of sites where testing is presently ongoing. CenturyLink input 1,838 central offices in its calculations because this figure represents the estimated number of central offices nationwide where generator testing is not currently being performed. Using the *NPRM*'s estimate of 24,500 central offices nationwide,[4] and using the *NPRM's* estimate that approximately 75 percent of those central offices have onsite generators (or 18,375 central offices),[5] and assuming 10 percent of those central offices are not currently being tested yields 1,838 central offices nationwide. CenturyLink explained in its reply comments why it is more reasonable to assume that 10 percent of generators are not currently being tested[6] rather than 5 percent as discussed in the *NPRM*.[7]

CenturyLink conducted a more formal review of its central offices and determined it has 25 central offices with interdependent generators, which is lower than CenturyLink had estimated in its reply comment filing.[8] Of these 25 central offices, one (1) central office has automated load shedding capability while the rest utilize manual load shedding.[9]

CenturyLink currently provides service to approximately 1,117 PSAPs. CenturyLink is unable to readily determine how many single routes it has to selective routers. A labor-intensive, time-consuming manual audit of CenturyLink's entire 9-1-1 network would be required to obtain this information. CenturyLink has processes in place to prevent adverse impacts to 9-1-1 network design. While CenturyLink does not formally "lock down" 9-1-1 circuits in order to preserve the ability to readily perform maintenance or emergency work on them, CenturyLink personnel verify that any design changes will not adversely affect 9-1-1

---

[3] CenturyLink Reply Comments, filed in the above-captioned proceedings on May 28, 2013 at p. 10.

[4] *NPRM* ¶ 52.

[5] *Id.*

[6] CenturyLink Reply Comments at p. 9.

[7] *NPRM* ¶ 54.

[8] CenturyLink Reply Comments at p. 10.

[9] For example, CenturyLink's compliance burden would be quite substantial if it were required to employ automated load shedding at all of its central offices with interdependent generators. The compliance burden would be greatly reduced if manual load shedding was determined to be an appropriate alternative approach. This example further illustrates how it is necessary to delve into the specifics of the compliance measures being considered in order to assess meaningful alternatives.

network diversity or other functionality. The company also uses tagging for 9-1-1 circuits and other associated higher level facilities to make them more identifiable and to prevent unplanned modifications.

- State Backup Power and 9-1-1 Tariff Requirements

As noted in CenturyLink's reply comments, numerous states have backup power requirements that CenturyLink is required to follow. A summary of various state backup power requirements is attached as Exhibit A. CenturyLink notes that this summary is illustrative and does not constitute a comprehensive review of backup requirements nationwide. CenturyLink meets and generally exceeds these requirements.

To date, CenturyLink has detariffed 9-1-1 services in at least seven (7) states. CenturyLink expects detariffing to increase as more states eliminate tariffing rules and streamline regulatory requirements to level the competitive playing field among providers of telecommunications services.

* * * * *

CenturyLink appreciates the opportunity to provide this information to the Commission. While Final Report -- Part 2 from CSRIC Working Group 8 would provide a reasonable starting point to develop a core set of best practices, CenturyLink urges the FCC to encourage further collaboration among public and private stakeholders on appropriate next steps before adopting a certification program. A working group setting would enable interested parties to examine how to best yield tangible public safety benefits in improved network reliability and resiliency in light of the cost and varied network issues 9-1-1 providers face and the unique challenges individual compliance measures may pose.

Sincerely,

/s/ Melissa E. Newman

Attachment – Exhibit A

Copy via email to:

Jeff Goldthorp
Eric Schmidt
Cecilia Mateo
Michael Connelly
Bill Richardson
John Healy
Lauren Kravetz

EXHIBIT A
June 20, 2013

State Back-up Power Requirements

State	Rule
AL	**Alabama Rule T-21:** (L) Emergency Operations (1) Each telephone utility shall make reasonable provisions to meet emergencies resulting from failures of lighting or power service, sudden or prolonged increase in traffic, illness of operators, or from fire, storm, or act of God, and each telephone utility shall inform employees as to procedures to be followed in the event of emergency in order to prevent or mitigate interruption or impairment of telephone service. (2) It is essential that all central offices and toll centers have adequate provisions for emergency power. Central offices that have twenty-four (24) hour maintenance coverage or have an automatic start engine alternator 55 shall provide a minimum of three (3) hours of battery reserve. All other central offices shall have a minimum of eight (8) hours of battery reserve. There shall be a mobile/portable emergency generator available within the company which can be delivered and connected on short notice. These central offices and generators shall be equipped with quick-connect connections.
AR	**Rule 11.06. Emergency Power Operation** Each LEC shall provide emergency power for each central office. A. Each central office without a permanently installed emergency power system shall be wired to permit connection of a mobile emergency power unit, and there shall be a mobile emergency power unit available for connection on short notice with minimum travel time. B. Each central office shall be equipped with a battery reserve sufficient to sustain operation until emergency power can be connected.
AZ	**R14-2-507. Provision of Service** D. Service interruptions 1. Each utility shall make reasonable efforts to reestablish service within the shortest possible time when service interruptions occur. 2. Each utility shall make reasonable provisions to meet emergencies resulting from failure of service, and each utility shall issue instructions to its employees covering procedures to be followed in the event of emergency in order to prevent or mitigate interruption or impairment of service. 3. In the event of a national emergency or local disaster resulting in disruption of normal service, the utility may, in the public interest, interrupt service to other customers to provide necessary service to civil defense or other emergency service agencies on a temporary basis until normal service to these agencies can be restored. 4. When a utility plans to interrupt service for more than four hours to perform necessary repairs or maintenance, the utility shall attempt to inform affected customers at least 24 hours in advance of the scheduled date and estimated duration of the service interruption. Such repairs shall be completed in the shortest possible time to minimize the inconvenience to the customers of the utility. 5. The Commission shall be notified of major interruptions in service affecting the entire system or any major division.
CO	**Service Quality Tariff** **2335. The Provision of Service During Maintenance or Emergencies**. The following paragraphs describe minimum standards for maintaining service.

	(a) Each LEC shall make reasonable provisions to meet emergencies resulting from: power failures; sudden and prolonged increases in traffic; staff shortages; and fire, storm, or acts of god. Each LEC shall issue instructions to its employees identifying procedures to be followed in the event of an emergency in order to prevent or mitigate interruptions or impairment of telecommunications service. (b) In the event of a commercial power failure, the provider shall furnish a minimum of four hours of backup power or battery reserve rated for peak traffic load requirements from the provider's power source to the network interface in landline (coaxial, fiber, or copper) applications in order to support existing basic service to lines that use a traditional ringer. A mobile power source shall be available that can be delivered and connected within four hours. Additional battery reserve capacity beyond the four-hour minimum shall be provided based on the consideration of the following local conditions: (I) Reasonable travel time (the time from personnel call-out through arrival at the facility); (II) Time for procuring and transporting the portable engine to the site, placing it in position, and connecting it to the load; (III) Number of sites serviced by one engine (commercial power failures may simultaneously affect more than one facility); and (IV) Frequency and duration of past commercial power failures. (c) All local central offices, toll switching or tandem switching offices, repeater huts, microwave radio sites, and other interoffice facilities requiring LEC-supplied power shall have available a minimum of four hours of battery reserve (or backup power) rated for peak traffic load requirements. If the facility is not continuously attended by trained personnel, or does not include a permanent auxiliary power unit, additional battery reserve shall be installed to provide for travel time. Travel time is the time from personnel call-out through arrival at the facility. (I) In central offices with capacity for more than 10,000 access lines, or in toll or tandem switching offices, a permanent auxiliary power unit shall be installed. If the auxiliary power unit requires manual-start and transfer, one hour additional battery reserve shall be installed. (II) For central offices serving fewer than 10,000 lines, repeater huts, microwave radio sites, and other interoffice facilities requiring power, a mobile power source shall be available which can be delivered and connected. Additional battery reserve capacity beyond the four-hour minimum shall be installed by the LEC at these locations based on the consideration of the following local conditions: (A) Reasonable travel time (the time from personnel call-out through arrival at the facility); (B) Time for procuring and transporting the portable engine to the site, placing it in position, and connecting it to the load; (C) Number of sites serviced by one engine (commercial power failures may simultaneously affect more than one facility); and (D) Frequency and duration of past commercial power failures. (d) Service interruptions for an extended time due to maintenance requirements shall be performed at a time that causes minimal inconvenience to impacted customers. The LEC shall take reasonable steps to notify the customer in advance of extended maintenance requirements. The LEC shall also make emergency service available when the provider knows that the service interruption affects 1,000 or more access lines and when the provider knows, based upon the prior experience of the LEC, that the interruption may last more than four hours during the hours of 8 a.m. to 10 p.m. If the LEC cannot provide emergency

	service, it shall file a report of the occurrence as required by paragraph 2143(h). (e) Each LEC shall develop a general contingency plan to prevent or minimize any service interruptions due to the catastrophic loss of a central office switch that serves more that **[sic]** 10,000 access lines or is the toll or tandem switching office for 10,000 access lines. The plan shall describe the actions and systems installed to prevent or minimize the probability of such an occurrence as well as describe the actions and systems available to minimize the extent of any incurred service interruption.
FL	**25-4.078 Emergency Operation.** (1) Each telephone utility shall make reasonable provisions to meet emergencies resulting from failure of lighting or power service, sudden and prolonged increases in traffic, storms, etc., and shall instruct employees as to procedures to be followed in the event of emergency in order to prevent or mitigate interruption or impairment of telephone service. (2) It is essential that all central offices have adequate provision for emergency power. All new central offices, central office replacements and/or major additions placed on order after the effective date of these rules shall be designed to meet the following objectives: (a) Central offices with installed emergency power generating equipment will have a minimum of three (3) hours central office battery capacity at busy season busy hour load. (b) Central offices without installed emergency power generating equipment shall have a minimum central office battery capacity of five (5) hours busy season load. Facilities will be available so that a portable generator can be readily connected. Portable generators will be provided, as a minimum, on the basis of one (1) per three (3) unequipped offices and garaged so that a unit may be delivered to an affected office on short notice and with minimum travel time.
GA	**515-12-1-.11 Engineering** (4) Emergency Operation. (a) Telephone utilities shall make reasonable provisions to meet emergencies resulting from failures of lighting or power services, unusual and prolonged increases in traffic, illness of personnel, or from fire, storm, or other acts of God and inform its employees as to procedures to be followed in the event of emergency in order to prevent or minimize interruption or impairment of telecommunication service. (b) Each central office shall contain as a minimum three hours of battery reserve. It is also essential that all central offices have adequate provision for emergency power. In offices without installed emergency power facilities, there shall be a mobile power unit available which can be delivered and connected in less than the battery reserve time. (c) In exchanges exceeding 5,000 lines, a dedicated auxiliary power unit shall be installed and shall be capable of being connected and operating in less than the battery reserve time.
IA	**22.6(5) IA Code Emergency operation.** a. Each telephone utility shall make reasonable provisions to meet emergencies resulting from failures of power service, climate control, sudden and prolonged increases in traffic, illness of operators, or from fire, explosion, water, storm, or acts of God, and each telephone utility shall inform affected employees, at regular intervals not to exceed one year, of procedures to be followed in the event of emergency in order to prevent or mitigate interruption or impairment of telephone service. b. All central offices shall have adequate provision for emergency power. Each central office shall contain a minimum of two hours of battery reserve. For offices without permanently installed emergency power facilities, there shall be access to a mobile power unit with enough

	capacity to carry the load which can be delivered on reasonably short notice and which can be readily connected. c. An auxiliary power unit shall be permanently installed in all toll centers and at all exchanges exceeding 4,000 access lines. d. Each local exchange utility shall maintain and make available for board inspection, its current plans for emergency operations, including the names and telephone numbers of the local exchange utility's disaster services coordinator and alternates.
ID	**ORDER NO. 29841** **2. The Ability to Remain Functional in Emergencies** Under the new FCC rules, to demonstrate the ability to remain functional in emergency situations, the ETC applicant must show that it has a reasonable amount of back –up power, is able to re-route traffic around damaged facilities, and is capable of managing traffic spikes resulting from emergency situations. 47 C. R. ~ 54.202(a)(2). The FCC adopted these requirements as a minimum stating that most emergency situations are local in nature. Therefore, the FCC encouraged state commissions to adopt additional, geographically specific factors relevant for consideration. ***Commission Finding.*** The Commission will follow the FCC' s proposed guidelines regarding emergency functionality. These requirements, as Staff suggested, demonstrate a commitment to service quality and reliability. Further, while different carriers in different industries and geographic areas will have different technological challenges and opportunities to meet these functional requirements, the requirements do not on their face appear to favor one technology over another. Thus, in order to demonstrate the ability to remain functional in emergencies, the ETC applicant must demonstrate that it has a reasonable amount of back-up power to ensure functionality without an external power source, is able to re-route traffic around damaged facilities, and is capable of managing traffic spikes resulting from emergency situations.
IL	**Section 737.410 Emergency Operation** a) Each Electing Provider shall make provisions to meet emergencies resulting from failures of commercial or power service, sudden and prolonged increases in traffic, illness of personnel, fire, storm, or other natural disasters. Each Electing Provider shall inform employees of the procedures to be followed in the event of an emergency in order to prevent or minimize interruption or impairment of telecommunications service. b) Each existing central office will contain a reserve battery supply of 5 hours when emergency power generators are not installed and 3 hours when they are in place. Central office batteries shall be maintained in accordance with Institute of Electrical and Electronic Engineers (IEEE) standards as adopted in Section 737.420, and records verifying maintenance shall be kept on site. New central offices or central offices being replaced shall contain a reserve battery supply of 8 hours when emergency power generators are not installed and 5 hours when they are in place. In central offices without installed emergency power generators, a mobile power unit shall be available that can be delivered and connected within 5 hours. c) In new central offices exceeding 3,000 working lines, a permanent power generator shall be installed. For existing central offices having over 3,000 lines, permanent power generators shall be installed at the time of office replacement or battery replacement. d) Emergency generator units shall have available at least a 12 hour fuel supply. e) Emergency generator units shall be tested under load once a month. A record of the test

	results shall be maintained.
IN	**170 IAC 7-1.2-18 Emergency operation** Sec. 18. (a) Each ETC shall do the following: (1) Make reasonable provisions to meet emergencies resulting from commercial electrical failure and sudden, prolonged increases in traffic due to extraordinary circumstances. (2) Instruct employees on procedures to be followed in the event of such emergencies in order to prevent or mitigate interruption or impairment of supported services. (b) All existing switching offices or functional equivalent shall maintain the following: (1) Switching offices or equivalent with installed emergency power generating equipment will have a minimum of three (3) hours battery capacity. (2) Switching offices or equivalent without installed emergency power generating equipment shall have a minimum battery capacity of five (5) hours. Facilities needed to connect a portable generator shall also be readily available.
KY	**807 KAR 5:061. Telephone.** Section 24. Emergency Operations. (1) Each telephone utility shall have a written plan to meet service emergencies resulting from failures of power service, sudden and prolonged increase in traffic, fire, storm, or acts of God. Each telephone utility shall train employees in procedure to be followed in an emergency. (2) All central offices and toll centers shall adequately provide for emergency power. Each central and/or toll office shall have a minimum of four (4) hours of battery reserve. In exchanges exceeding 5,000 lines and in toll offices, a permanent auxiliary power unit shall be installed. In offices without installed emergency power facilities there shall be a mobile power unit available of suitable capacity which can be delivered and connected within two (2) hours, or one-half (1/2) the battery reserve time, whichever is greater.
MD	**COMAR 20.45.05.09** **.09 Interruption of Service.** A. Each utility shall take appropriate measures to assure that service interruptions shall be kept to a minimum. B. Each utility shall make provisions to meet emergencies resulting from failure of power, sudden and prolonged increases in traffic, absences of employees, or from fire, storm, or similar contingencies. The utility shall inform its employees as to procedures to be followed in the event of these contingencies in order to prevent or mitigate interruption or impairment of service. C. Each central office equipped with an emergency generator shall contain, as a minimum, 4 hours of battery reserve based on the busy hour load. Offices not so equipped shall contain, as a minimum, 8 hours of battery reserve based on the busy hour load and shall have access to a portable generator capable of providing power in the event of power failure. D. Outside facilities shall be so constructed as to be minimally susceptible to interruptions due to weather conditions. E. If service must be interrupted for the purpose of working on the lines or equipment, reasonable effort shall be made to perform the work at a time which shall cause minimal

	inconvenience to subscribers. When the interruption will be of a significant duration, the affected customers shall be notified and emergency services shall be available, as required, for the duration of the interruption. F. Each telephone utility shall inform the Commission, as soon as possible, of any occurrence of an unusual nature which apparently may result in prolonged and serious interruption of service to a large number of customers. G. Each utility shall keep records of interruptions of service and shall make an analysis of the records for the purpose of determining steps to be taken to prevent recurrence of the interruptions. These records should include the following information concerning the interruptions: (1) Cause; (2) Date and time; and (3) Duration. H. The records for each unattended central office shall show interruptions which required attention to restore service, with the estimated time of interruption. I. Repair service shall be available daily, including Sunday, to all customers in the case of a service interruption to any main station telephone, consistent with the personal safety of utility personnel. J. Service shall be maintained in such a manner as is required to assure that the rate of customer trouble reports in a district service center is no greater than 8.0 per 100 stations per month. K. Allowance for Interruptions. If the service is interrupted, appropriate action shall be taken to the extent possible to restore service within 24 hours following notification by the customer. Appropriate adjustment or refunds shall be made for a telephone out of service longer than 24 hours, per utility's tariff.
MI	**484.2305c Emergency power requirements; compliance.** Sec. 305c. A provider of basic local exchange service shall comply with the following emergency power requirements: (a) A facilities-based provider shall equip each central office, remote switch, remote line unit, and interexchange toll switching office or access tandem with a minimum of 3 hours of peak load battery reserve, if permanent auxiliary power is installed, and 5 hours of battery reserve, if permanent emergency power is not installed, or 8 hours of battery reserve if the central office is in a remote location. A facilities-based provider shall have available a mobile power

	unit to be delivered and connected to central offices, remote switches, and remote line units within 8 hours. (b) An E 9-1-1 service supplier shall provide 24-hour, 7-day-a-week database access to permit information to be acquired or corrected. (c) A provider, E 9-1-1 service supplier, public safety answering point, or any entity providing or maintaining E 9-1-1 database information shall correct each error in the 9-1-1 system or database within 1 business day.
MN	**7810.3900 EMERGENCY OPERATIONS.** Each telephone utility shall make reasonable provisions to meet emergencies resulting from failures of lighting or power service, sudden and prolonged increases in traffic, illness of operators, or from fire, storm, or acts of God, and each telephone utility shall inform employees as to procedures to be followed in the event of emergency in order to prevent or mitigate interruption or impairment of telecommunications service. It is essential that all companies shall make reasonable provisions for emergency power. In offices without installed emergency power facilities, there shall be a mobile power unit available which can be delivered on short notice, and which can be readily connected. Each central office shall contain as a minimum four hours of battery reserve. In exchanges exceeding 5,000 lines, a permanent auxiliary power unit shall be installed.
MO	**4 CSR 240-32.060 Engineering and Maintenance** (5) Each company shall make reasonable provisions to meet emergencies resulting from lightning or power service failures, unusual and prolonged increases in traffic, absence of personnel, fire, storm or other natural disasters and shall inform its employees of procedures to be followed in the event of emergency in order to prevent or minimize interruption or impairment of telecommunications service. Each central office shall contain as a minimum three (3) hours of battery reserve. In each office without installed emergency power facilities, there shall be a mobile power unit available which can be delivered and connected on short notice. In each central office, other than a controlled environmental vault, serving more than five thousand (5,000) lines, a permanent auxiliary power unit shall be installed.
MT	**38.5.3351 EMERGENCY OPERATION** (1) Carriers shall make reasonable provisions to meet emergencies resulting from failures of lighting or power service, unusual and prolonged increases in traffic, illness of personnel, or from fire, storm, or other acts of God and inform its employees as to procedures to be followed in the event of emergency in order to prevent or minimize interruption or impairment of telecommunications service. (2) Each central office and interexchange toll switching office or access tandem shall contain as a minimum four hours of battery reserve. (3) In central offices exceeding 5,000 lines and in all interexchange toll switching offices or access tandems, a permanent auxiliary power unit shall be installed. In central offices without permanently installed emergency power facilities, there shall be a mobile power unit available which can be delivered and connected on short notice.
NC	**Rule R9-1. Safety rules and regulations.** The current rules and regulations of the American National Standards Institute (ANSI) entitled "National Electrical Safety Code" are hereby adopted by reference as the communication safety rules of this Commission and shall apply to all telephone utilities

	which operate in North Carolina under the jurisdiction of the Commission.
NE	**Rule 002.05 Emergency Operations and Power:** 002.05A Each exchange carrier shall make reasonable provisions to meet emergencies resulting from failures of lightning or power service, sudden and prolonged increases in local calls or similar emergencies and each exchange carrier shall inform its employees as to procedures to be followed in the event of emergency in order to prevent or mitigate interruption or impairment of access line service. 002.05B It is essential that all central offices have reasonably adequate provisions for emergency power. For offices without permanently installed emergency power facilities, there shall be a mobile power unit available which can be delivered on reasonably short notice and which can be readily connected. 002.05C Each central office shall contain, as a minimum, three (3) hours of battery reserve.
NJ	**§ 14:10-1A.14 Prevention and reporting of service interruptions** (a) Each telephone utility shall take all appropriate measures to minimize service interruptions. Each telephone utility shall make provisions to meet emergencies resulting from failure of power, sudden and prolonged increases in traffic, absences of employees or from fire, storm, natural disasters, attacks or similar contingencies. Each telephone utility shall inform its employees as to procedures to be followed in the event of such contingencies in order to prevent or mitigate interruption or impairment of service. (b) Each central office, and each remote central office that carries inter-community calls without routing them to the main central office, shall contain sufficient battery reserve to keep the office operational until auxiliary power can be placed into service. (c) In exchanges exceeding 5,000 lines, the telephone utility shall install a source of permanent auxiliary power. (d) A utility shall inform Board staff on the same business day or if the outage occurs outside the Board's normal business hours, at the beginning of the next business day, of any major service interruption, by telephone at a telephone number posted for that purpose on the Board's website. The utility contact person shall: 1. Explain what it believes to be the cause of the service interruption; 2. Describe the measures the utility is taking to remedy the problem; and 3. Provide Board staff with the telephone number of a utility contact that Board staff can reach at all times in order to monitor the situation. (e) For purposes of this section, "major service interruption" means any network condition that causes 1,000 or more customers to be out of service for 30 or more minutes, causes an unplanned outage of, or completely isolates, a central office for 30 minutes, or disrupts 911 emergency call processing at Public Service Answering Points for any period. (f) Each utility shall submit to the Board Staff all reports submitted to the FCC in accordance

	with 47 CFR Part 63, Notification of service outage.
NM	**17.11.22.10 PROVISION OF SERVICE DURING MAINTENANCE OR EMERGENCIES:** **A. Emergency procedures.** Each ILEC and facilities-based CLEC shall establish, and instruct its employees regarding, procedures for preventing or mitigating interruption to or impairment of telecommunications service in emergencies resulting from power failures, sudden and prolonged increases in traffic, illness of operators, or force majeure. ILECs and facilities-based CLECs shall file written plans detailing their emergency procedures with the telecommunications bureau of the commission no later than sixty (60) days after certification by the commission. Any changes to the plan shall be filed with the telecommunications bureau of the commission within thirty (30) days of the change. **B. Reserve power requirements.** ILECs and facilities-based CLECs shall maintain in each local wire center, toll switching office, and tandem switching office a minimum of four (4) hours of battery reserve rated for peak traffic load requirements and shall: **(1)** install a permanent auxiliary power unit in toll and tandem switching offices and in wire centers serving 10,000 or more access lines; **(2)** have available a mobile power unit which normally can be delivered and connected within four (4) hours or the time limit of the available battery reserve for wire centers serving fewer than 10,000 lines. **C. Maintenance scheduling.** ILECs and facilities-based CLECs shall schedule maintenance requiring extended service interruptions when it will cause minimal inconvenience to customers. To the extent possible, ILECs and facilities-based CLECs shall notify customers in advance of extended service interruptions. Based upon their prior experience, ILECs and facilities-based CLECs shall make emergency service available in any area that may experience service interruptions affecting 1,000 or more access lines and lasting more than four (4) hours between the hours of 8:00 a.m. to 10:00 p.m. If an ILEC or facilities-based CLEC cannot provide emergency service, it shall file a report of the service interruption with the telecommunications bureau of the commission. **D. Loss of switch plan.** Each ILEC and facilities-based CLEC shall develop a contingency plan to prevent or minimize service interruptions due to the loss of a wire center switch that serves more than 10,000 access lines or is the toll or tandem switching office for 10,000 access lines. The plan shall describe the actions and systems installed to prevent or minimize the probability of such an occurrence as well as the actions and systems available to minimize the extent of any incurred service interruption. ILECs and facilities-based CLECs shall file the plans with the telecommunications bureau of the commission no later than sixty (60) days after certification by the commission. Any changes to the plan shall be filed with the telecommunications bureau within thirty (30) days of the change.
OK	165:55-13-22. Emergencies (a) All telecommunications service providers shall make adequate provision for emergencies in order to prevent interruption of continuous telecommunications service throughout the area it serves. (b) Central office(s) shall have an emergency power source, either on the premises or available on short notice.
PA	**63.14. Emergency equipment and personnel.** (a) *Emergencies.* A public utility shall take reasonable measures to meet emergencies, such

	as fire, storm, illness of personnel, power failure or sudden increase in traffic, by making available to the extent practicable the following: (1) Emergency sources of ringing, lighting and other power. (2) Other reserve equipment. (i) The reserve equipment shall include a minimum of 3 hours battery reserve for central offices equipped with permanently installed standby power facilities. (ii) Central offices shall have adequate provisions for standby power. A central office which is without stationary standby power facilities shall have available a portable power unit which can be delivered and connected on short notice. (iii) Exchanges exceeding 5,000 lines shall be equipped with stationary standby power facilities. (3) Qualified personnel for emergency operating and repair work. (b) *Emergency service.* If the volume of traffic does not require that the central office be attended during the full 24 hours, emergency service shall be provided during the period in which the switchboard is unattended by the use of suitable alarm signals and conveniently available personnel.
SC	**103-646. Emergency Operation.** A. Telephone utilities shall make reasonable provisions to meet emergencies resulting from failures of lighting or power services, unusual and prolonged increases in traffic, illness of personnel, or from fire, storm, or other acts of God and inform its employees as to procedures to be followed in the event of emergency in order to prevent or minimize interruption or impairment of telephone service. B. Each central office shall contain as a minimum two hours of battery reserve. All central offices shall make adequate provisions for emergency power. In offices without installed emergency power facilities, there shall be a mobile power unit available which can be delivered and connected within the period of the battery reserve and can maintain the office for an extended period of time. C. In exchanges exceeding 5,000 lines, a permanent auxiliary power unit shall be installed.
SD	**20:10:33:19. Auxiliary and battery power requirements.** Each local central office, toll switching office, or tandem switching office of a local exchange company shall contain a minimum of 8 hours, plus or minus 15 percent, of battery reserve rated for peak traffic load requirements. A permanent auxiliary power unit may be utilized to meet this requirement. In central offices and toll tandem switching offices, a permanent auxiliary power unit shall be installed or a mobile power source shall be available which normally can be delivered and connected within four hours. The remote terminating electronics of a local exchange company shall be equipped with a local or remote battery

	plant designed for a minimum of 8 hours, plus or minus 15 percent, of battery reserve rated for peak traffic load requirements. The batteries shall be tested and reported internally on a regular basis, not to exceed once a year.
TN	**1220-4-2-.23 EMERGENCY OPERATION.** (1) Each telephone utility shall make reasonable provisions to meet emergencies resulting from failures of lighting or power service, sudden and prolonged increases in traffic, illness of operators, or from fire, storm or acts of God, and each telephone utility shall inform employees as to procedures to be followed in the event of emergency in order to prevent or mitigate interruption or impairment of telephone service. (2) It is essential that all central offices have adequate provision for emergency power. In offices without installed emergency power facilities, there shall be a mobile power unit available which can be delivered on short notice, and which can be readily connected.
TX	**§26.52. Emergency Operations.** (a) Each dominant certificated telecommunications utility's (DCTU) central office not equipped with permanently installed standby generators shall contain as a minimum four hours of battery reserve without voltage falling below the level required for proper operation of all equipment. It is also essential that all central offices have adequate provisions for emergency power. In offices without installed emergency power facilities, there shall be a mobile power unit available which can be delivered and connected on short notice. (b) In exchanges exceeding 5,000 lines, a permanent auxiliary power unit shall be installed.
UT	**R746-340-4. Emergency Operation.** A. Emergency Service -- Telecommunications corporations shall make reasonable arrangements to meet emergencies resulting from failures of service, unusual and prolonged increases in traffic, illness of personnel, fire, storm or other acts of God, and inform its employees as to procedures to be followed in the event of emergency in order to prevent or minimize interruption or impairment of telecommunication service. B. Battery Power -- Each central office shall have a minimum of three hours battery reserve. C. Auxiliary Power -- In central offices exceeding 5,000 lines, a permanent auxiliary power unit shall be installed.
WA	**WAC 480-120-411** **Network maintenance.** (1) Each local exchange company (LEC) must: (a) Provide adequate maintenance to ensure that all facilities are in safe and serviceable condition; (b) Correct immediately hazardous conditions endangering persons, property, or the continuity of service when found, reported, or known to exist; (c) Promptly repair or replace broken, damaged, or deteriorated equipment, when found to

	be no longer capable of providing adequate service; and (d) Correct promptly transmission problems on any channel when located or identified, including noise induction, cross-talk, or other poor transmission characteristics. (2) Each LEC must install and maintain test apparatus at appropriate locations to determine the operating characteristics of network systems and provide sufficient portable power systems to support up to the largest remote subscriber carrier site. For the safe and continuous operation of underground cables, each LEC must establish air pressurization policies and an air pressurization alarm-monitoring program where appropriate. (3) Central offices equipped with automatic start generators must have three hours' reserve battery capacity. Central offices without automatic start generators must have a minimum of five hours' reserve battery capacity. Central offices without permanently installed emergency power facilities must have access to readily connectable mobile power units with enough power capacity to carry the load and that can be delivered within one half of the expected battery reserve time.
WI	**PSC 165.065 Emergency operation.** **(1)** Each telecommunications utility shall make reasonable provision to meet emergencies resulting from national security requirements, failures of lighting or power service, sudden and prolonged increases in traffic, illness of personnel, or from fire, storm, or similar emergencies, and each telecommunications utility shall inform employees as to procedures to be followed in the event of emergency in order to prevent or mitigate interruption or impairment of telecommunications service. **(2)** It is essential that all central offices and remote switching units have reasonably adequate provision for emergency power. For offices or remote switching units without installed emergency power facilities, there shall be a mobile power unit available which can be delivered on reasonably short notice, and which can be readily connected.
WY	**38.5.3351** EMERGENCY OPERATION (1) Carriers shall make reasonable provisions to meet emergencies resulting from failures of lighting or power service, unusual and prolonged increases in traffic, illness of personnel, or from fire, storm, or other acts of God and inform its employees as to procedures to be followed in the event of emergency in order to prevent or minimize interruption or impairment of telecommunications service. (2) Each central office and interexchange toll switching office or access tandem shall contain as a minimum four hours of battery reserve. (3) In central offices exceeding 5,000 lines and in all interexchange toll switching offices or access tandems, a permanent auxiliary power unit shall be installed. In central offices without permanently installed emergency power facilities, there shall be a mobile power unit available which can be delivered and connected on short notice.